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**Notice of Allowability**

Application No.

10/816,606

Examiner

David S. Blum

Applicant(s)

PARK ET AL.

Art Unit

2813

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2/28/06.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 4/2/04, 6/29/04, 3/1/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 6/7/06.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

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This action is in response to the election filed 2/28/06.

This application is in condition for allowance except for the presence of claims 15-20 directed to an invention non-elected with traverse in the reply filed on 2/28/06. An interview was held with Keith M. Tackett, which resulted in the following amendment.

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Keith M Tackett on 6/6/06.

The application has been amended as follows:

Claims 15-20 are canceled.

### ***Reasons for Allowance***

2. Claims 1-14 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Claim 1 limits the method of processing a substrate to seasoning the deposition chamber with an organosilicon where the ratio of organosilicon to the oxidizing gasses

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is less in the seasoning mix than in the deposition mix. Claim 9 limits the method of processing a substrate to seasoning the deposition chamber with a layer comprising about 5% or less carbon on one or more interior surfaces and depositing a dielectric layer greater than about 5% carbon by reacting one or more organosilicon compounds and one or more oxidizing gasses in the presence of RF power. Rossman (US006846742B2 and US006121161A) do not explicitly teach using an organosilicon (examples are silane), but the ration of silicon containing gasses to the oxidizing gases is greater in the seasoning mixture than in the deposition mixture, rather than less as in the instant claims. Rajagopalan (US 20060093756A1) does not teach the ratios of gasses used, thus there is no teaching of a ratio of organosilicon to the oxidizing gasses is less in the seasoning mix than in the deposition mix. Rossman (EP0884401A1) seasons with a nitride and not an oxidizing gas. Xu (US006656837B2) is silent as to the seasoning of the chamber. None of the above references teach or suggest a carbon level deposited on the chamber wall from the organosilicon. Only Xu teaches carbon in the dielectric layer (between about 5-30 atomic % which reads on the second limitation), but Xu is silent as to seasoning. Rajagopalan uses organosilicons which one would expect to leave carbon in the dielectric and the chamber wall, however, (paragraph 0015) Rajagopalan teaches the seasoning method to prevent any carbon residue on the walls.

Claims 2-8 are allowed as being properly dependent upon allowed claim 1.

Claims 10-14 are allowed as being properly dependent upon allowed claim 9.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Blum whose telephone number is (571)-272-1687) and e-mail address is David.blum@USPTO.gov .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr., can be reached at (571)-272-1702. Our facsimile number all patent correspondence to be entered into an application is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David S. Blum

June 7, 2006